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Manufacturing's Contribution to Pakistan's Economic Expansion: Commodity- or Service-Led Growth?

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The sources of growth in any country can be examined from several different perspectives, each suggestive of policy actions undertaken by the government:

(i) the factors of production — the relative contribution of labour, capital and the like to overall output;

(ii) the major sources of demand — consumption, investment, exports; and

(iii) the sectoral contribution to growth — the contribution made by agriculture, manufacturing, etc.

With regard to the sectoral contributions to growth in Pakistan, Burney (1986) found (over the period 1960–85) that the commodity-producing sectors (agriculture and manufacturing) accounted for than 40% of the growth in GDP, the major crops being the main source of the varying contribution of agriculture, while in the case of manufacturing, the large-scale sector's output accounted for more than 60% of the contribution.

The Pakistan economy has gone through a number of major changes since 1985. In particular (but especially from 1988 onwards) progress has been especially strong in the area of freeing the private sector from regulation and artificial price distortions. In addition, a complementary privatisation programme was launched with the aim of reducing the role of the public sector in manufacturing and services. As a side benefit, the programme was seen as alleviating the government's financial and administrative burden and creating new opportunities for the private sector.

While growth in large-scale manufacturing output has not accelerated in recent years (nor has its overall contribution to GDP growth increased), there is hope (particularly among official policy-makers) that this activity is finally beginning to play the classic role of a leading sector. However, for manufacturing to be a true leading sector it must be shown that its expansion

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tends to create a number of direct linkages with other key sectors such as construction, agriculture and the like. Since these sectors also have numerous linkages with the rest of the economy, an increase in manufacturing would then set in motion a broad-based cumulative expansion of the economy.

This article aims to explore these issues. Namely, what areas of the economy appear to respond to increased manufacturing output? And does manufacturing appear to be largely exogenous, or is it affected to a large extent by output in other areas of the economy?

Leading sectors

As already noted, a main thrust of the government's post-1988 programme has been to accelerate the rate of growth in manufacturing in the hope that this sector will act as a leading sector by imparting its growth momentum to other areas of the economy. Here it is instructive to examine the relative percentage contribution made to GDP growth over time by manufacturing. For large-scale manufacturing the picture is somewhat mixed (Table 1). For the 1988–92 period, 13.25% of GDP growth was accounted for by the expansion in large-scale manufacturing. However, if we leave out 1988 this average increases to 15.59, which compares favourably with 11.24% for the 1974–92 period as a whole, though it is still below the 16.85% for the 1980–85 period.

The pattern for small-scale manufacturing is more stable (Table 1). During the 1988–92 period this sector contributed an average of 7.51% to GDP growth, up slightly over the 7.26% for the 1974–92 period as a whole. However, the growth of this sector is considerably above its average of 4.53% for the 1980–85 period.

In short, there does not appear to be a major shift in recent years in growth-generating capability to the manufacturing sector. The simple growth comparisons presented above do not, however, tell the whole story. The true test of whether manufacturing is evolving into a leading sector is its causal relationship with GDP (and with other sectors).

According to Currie (1974), leading sectors have two critical characteristics: an unexploited or latent demand that can be actualised, and a sufficiently large demand to cause its satisfaction to have a significant impact on the whole economy. A further qualification is that an increase in the sector's growth can be exogenous and can occur independently of the current overall rate of growth of the economy. It follows that one could conclude that the manufacturing sector was beginning to assume the role of a leading sector if it could be shown that its recent performance reflected an increasing level of exogenous growth. To be a true leading sector this growth must have a significant (and positive) impact on the country's overall economic expansion.

Table 1
Pakistan: contribution of manufacturing to GDP growth, 1974–92

	Growth in GDP	*Share of GDP*	*Growth*	*Contribution to GDP*	
				(absolute)	*(%)*
Large-scale manufacturing					
Averages					
1974–92	6.04	11.47	6.70	0.76	11.24
1974–79	5.31	10.79	3.98	0.43	2.97
1980–92	6.38	11.79	7.96	0.91	15.06
1980–85	6.81	11.43	9.37	1.03	16.85
1986–92	6.01	12.10	6.74	0.81	13.52
1988–92	6.03	12.19	6.57	0.80	13.25
Variances					
1974–92	3.35	0.42	14.50	0.17	125.05
1974–79	5.86	0.16	16.42	0.20	188.67
1980–92	1.83	0.22	8.62	0.09	49.57
1980–85	2.21	0.18	8.32	0.08	67.77
1986–92	1.22	0.05	5.68	0.08	28.85
1988–92	1.68	0.04	7.65	0.11	38.58
Small-scale manufacturing					
Averages					
1974–92	6.04	4.27	8.76	0.36	7.26
1974–79	5.31	3.84	8.75	0.31	9.32
1980–92	6.38	4.47	8.76	0.38	6.30
1980–85	6.81	4.00	7.64	0.30	4.53
1986–92	6.01	4.87	9.72	0.45	7.83
1988–92	6.03	4.98	8.80	0.43	7.51
Variances					
1974–92	3.35	0.27	16.87	0.03	30.35
1974–79	5.86	0.07	6.44	0.03	73.74
1980–92	1.83	0.24	12.45	0.02	7.45
1980–85	2.21	0.02	16.31	0.03	3.89
1986–92	1.22	0.08	7.15	0.01	5.48
1988–92	1.68	0.06	3.70	0.01	6.51

Note: Computed from World Bank data. The sectoral contribution to growth rate is computed by weighing the sectoral growth rates by the previous year's sectoral share of GDP.

An alternative theory

In rejecting the notion that manufacturing has acted as a leading sector in Pakistan's recent economic expansion, James and Naya (1990) contend that the high rates of economic growth achieved were not due to a manufacturing-led expansion, but were simply facilitated by external circumstances which relaxed the balance-of-payment constraints. As these external circumstances worsened in the mid to late 1980s, underlying macroeconomic imbalances emerged and the growth slowed down.

In part the growth that occurred in the late 1970s could be attributed to recovery from the recession and the economy's adjustment to the traumas of the early 1970s. However, that rapid real GDP gains were sustained year after year into the late 1980s, indicates that a fundamental acceleration in the growth trend occurred in the late 1970s.

More specifically James and Naya argue that improvement in growth performance has been associated with higher manufacturing and agricultural growth. Increasingly, the orientation of the trade, the exchange-rate, and the industrial policies has been towards exports and competitive markets. Regulatory restrictions on business have been relaxed and an expanded role has been given to the private sector. These positive changes may help explain the high growth rate from 1977 to 1987. The assessment of how much the partial liberalisation of policies influenced productivity and growth is tempered by the realisation that certain special circumstances also influenced the situation (James and Naya, 1990: 203):

(i) the sharp increase in worker's remittances from the Middle East after 1979; and

(ii) the large inflows of foreign aid in response to the invasion of Afghanistan.

Both these fortuitous factors allowed the economy to grow at a faster rate than was warranted by the domestic savings rate. After a decade of growth (averaging almost 7% between 1987 and 1990), real growth of GDP fell to an average of around 5%, indicating that some of the favourable factors have receded. At the same time, a number of rather serious macroeconomic imbalances have arisen, which demand corrective measures that could further reduce growth. These include wide deficits in the budget and trade accounts, a low and declining saving rate, rising inflation and an increasing debt-service burden.

An important part of the government's growth strategy was an effort to increase investment efficiency. Raising the investment ratio through encouragement of the private sector became a major component of the high

growth strategy adopted after 1977. The continued high level of public investment was to complement the expansion of private investment. The government investment programme concentrated on the infrastructure, while private investment concentrated on the productive sectors — agriculture, industry, and services. The government was successful in raising the share of private investment between 1978 and 1988 from 30% to 50%. However, the growth of total investment has been so slow that between 1978 and 1988 the investment rate fell slightly as a percentage of GDP. A remarkable feature of the high growth achieved since the late 1970s is that it has been accomplished with relatively low investment levels.

Increased public deficits and low saving rates suggest that reforms are needed to increase revenue and reduce expenditure. However, the structure of government expenditure may allow little room for cuts. A large portion goes on defence and interest payments, which together account for over half of government current expenditure. Development expenditures, including investment and spending on social and economic services, declined from 8% of GDP in the early 1980s to under 7% of GDP in 1988. Clearly this share ought not to be reduced any further. Consequently, any improvement in budgetary deficits from the expenditure side will rely heavily on reducing subsidies and improving the performance of public enterprises.

Another factor that would seem to cast doubt on any leading-sector role attributed to manufacturing is the way in which the government has influenced that sector's competitive position in international markets. Rostow (1990: chapter 18) and other writers have stressed that in many cases export markets can provide the impetus for rapid expansion in manufacturing output.

According to the factor proportions theory of international trade, *a priori* one would expect a labour-surplus, agrarian country like Pakistan to specialise in the production and export of labour-intensive and agri-based goods.[1] Given the scarcity of domestic savings, it would tend to import goods intensive in various forms of capital — both physical and human. This pattern appears to fit Pakistan's foreign trade reasonably well. Nevertheless, its export performance during the period 1971–7 was relatively poor. The share of non-traditional (mainly labour-intensive) exports was stagnant. Between 1970 and 1985 manufactured exports in nominal terms averaged only 10% annual growth, or less than half the average for all developing countries. During much of the 1970s — a period of relatively robust growth in world trade compared with the 1980s — trade and industrial policies in Pakistan were erratic.

After 1977, efforts were made to rationalise policies to some degree in order to establish more effective incentives for exports, substitute domestic production for imports and promote efficiency in stimulating industrial growth. Perhaps the

1. This section follows closely the discussion in James and Naya (1990: 211–15).

most significant change was the adoption of more flexible and aggressive exchange-rate management beginning in the early 1980s.

Several studies (for example, Guisinger and Scully, 1989) have evaluated the structure of protection and the effects of various promotion policies on Pakistan's industries. The main findings are as follows (James and Naya, 1990: 212–14):

(i) Pakistan's domestic markets been comparatively heavily protected. Among Asian developing countries in the early 1980s, Pakistan had one of the highest average tariff levels. Not only were tariffs high, but imports were all subject to quantitative restrictions. Nevertheless, over time it appears that the overall level of protection in Pakistan has been reduced.

(ii) One of the most significant features of trade protection and industrial promotion policies in Pakistan is the unevenness of incentives across activities and even within industries according to the size or location of firms. This unevenness is amply demonstrated by studies of 'effective protection' and industrial policies. The irregularities arise for a variety of reasons — including variations in tariffs, differences in treatment of import licences, varying rates of indirect taxes (including excises and export duties) and subsidies, and differences in access to the government bureaucracy itself.

(iii) The variations in rates of protection often produce unintended, and even bizarre, results. Examples are high protection of inefficient industries; negative protection of efficient and export-oriented industries; encouragement of capital-intensive, large-scale firms; and discouragement of efficient and small- and medium-scale enterprises.

(iv) The existing studies indicate that protection in the early 1980s in Pakistan was strongly biased against export activities in which the country had a comparative advantage.

(v) By 1981, more and more commentators were speculating that the rupee was grossly overvalued.[2] The overvaluation, coupled with the high average tariffs, the restrictive quota licences on imports and the deployment of indirect taxes on imports and exports (some partially offset by duty drawbacks and subsidies) created a strong overall bias in favour of import-substituting industries. This situation also encouraged firms to produce for the domestic (protected) market rather than foreign markets.

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2. See the editorial 'Highly Ill-Advised', *Dawn*, 23 February 1981.

(vi) The system of protection also had negative effects on employment and distribution by unduly favouring investment in large inward-oriented industries.

(vii) In a sense the import quotas and bans, along with the tariff restrictions, were necessitated by efforts to overcome short-term disturbances and crises manifested in foreign-exchange shortfalls. The pernicious longer-term consequences of discretionary controls were rarely considered. The objectives of protecting domestic industries in sectors with comparative advantage and thereby eventually attaining a stronger export- and import-competing industrial base, were undermined.

(viii) The businesses that received the licences for imports and the foreign-exchange allocations concentrated on collecting the rents arising from excess demand and cultivating bureaucrats rather than on efforts to increase efficiency in their plants so that they could compete in external markets.

These features have delayed the diversification of exports and have hamstrung the development of labour-intensive manufacturing activities with export potential. Clearly such policies have stifled whatever leading-sector capabilities manufacturing might otherwise have developed. On the other hand, the policies introduced to liberalise markets may be working in the direction of integrating manufacturing with the other main branches of economic policy.

The general problem of liberalisation can be simply expressed as one of revising incentives so that it is roughly equally profitable to produce goods for foreign or domestic markets. The opening up of Pakistan's economy to foreign trade and investment has been at best a gradual process. Moreover, liberalisation measures have not been introduced as part of a well-thought-out programme, but rather piecemeal and often under the prodding of international donors. Despite this haphazard approach, it appears that some of the changes introduced have been substantial (James and Naya, 1990: 212–14):

(i) Since the early 1980s, Pakistan has broadly followed a combination of policies to move towards a more neutral trade regime. Despite the partial nature of its trade liberalisation, the trend has been comparatively clear in the 1980s as compared with the previous decade. The average level of tariffs and their distribution have been reduced. By the late 1980s the tariff level averaged 30% compared with 70% in 1979.

(ii) The reduction in import controls has also been noticeable. Export incentives have also improved. Among these has been aggressive, flexible exchange-rate management. From 1981 to 1989 the rupee depreciated against the SDR by 59%. Imports have been liberalised by expanding the open general licence for imports of equipment and industrial raw materials.

(iii) Export subsidies have included not only duty drawbacks but also export credit facilities. The procedures for collecting rebates for exporters were streamlined and focused on non-traditional (new manufactured) goods.

(iv) The World Bank has estimated that the share of industries where imports have been liberalised (in the sense of being on the free list or under Open General Licence) has expanded from only one-third in 1980 to two-thirds or more. Tariffs above 50% are imposed on only about one-fifth of all imports.

The issue of causation

It is quite possible that these reforms may have enabled manufacturing to begin stimulating growth in other sectors. In this regard, the issue of causation is an integral element in Currie's (1974) view of the critical elements needed by an activity to be a leading sector.[3] In other words, growth in the leading sector must be exogenous and must in turn lead to the expansion of output in other major areas of the economy. Has expanded manufacturing output occurred independently of GDP? In turn, has this expansion created sufficient demand linkages to stimulate other areas of economic activity?

Before drawing any definitive conclusions as to the impact of the government's recent policy packages vis-à-vis the private sector, one needs to address the issue of causation. Fortunately, several statistical tests using regression analysis for this purpose are gaining wider acceptance. The original and most widely used causality test was developed by Granger (1969). According to this test, increased manufacturing output causes growth in (say) the construction sector, if rates of expansion in that sector can be predicted more accurately by past values of manufacturing output than by past rates of growth in construction value added. To be certain that causality runs from manufacturing to construction, past values of manufacturing must also be more accurate than past values of construction in predicting the observed rates of growth in manufacturing output over time.

The results of Granger causality tests depend critically on the choice of lag length. If the chosen lag length is less than the true lag length, the omission of relevant lags can cause bias. If the chosen lag is greater than the true lag length, the inclusion of irrelevant lags causes estimates to be inefficient. While it is possible to choose lag lengths based on preliminary partial autocorrelation methods, there is no *a priori* reason to assume that lag lengths are equal for all

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types of economic activity. To overcome the difficulties noted above, we used the Hsiao (1981) method to identify the optimal lags.[4]

Four cases are possible (see World Bank, 1984; 1991; 1992; 1993): (a) *manufacturing growth causes non-manufacturing sectoral growth* when the prediction error for non-manufacturing decreases when manufacturing is included in the growth equation. In addition, when non-manufacturing output is added to the manufacturing equation, the final prediction error should increase; (b) *non-manufacturing growth causes manufacturing growth* when the prediction error for non-manufacturing increases when manufacturing is added to the regression equation for non-manufacturing, and is reduced when non-manufacturing is added to the regression equation for manufacturing; (c) *feedback* occurs when the final prediction error decreases when manufacturing is added to the sectoral output equation, and the final prediction error decreases when non-manufacturing output is added to the manufacturing equation; and (d) *no relationship* exists when the final prediction error increases both when manufacturing is added to the non-manufacturing output equation and when non-manufacturing output is added to the manufacturing equation.

Summing up, the main questions of interest are: has the expansion in manufacturing initiated an overall expansion in other key sectors of the economy? And if so which areas? Has this pattern changed over time? Here again we are especially interested in examining the impact of the post-1988 reform programme.[5]

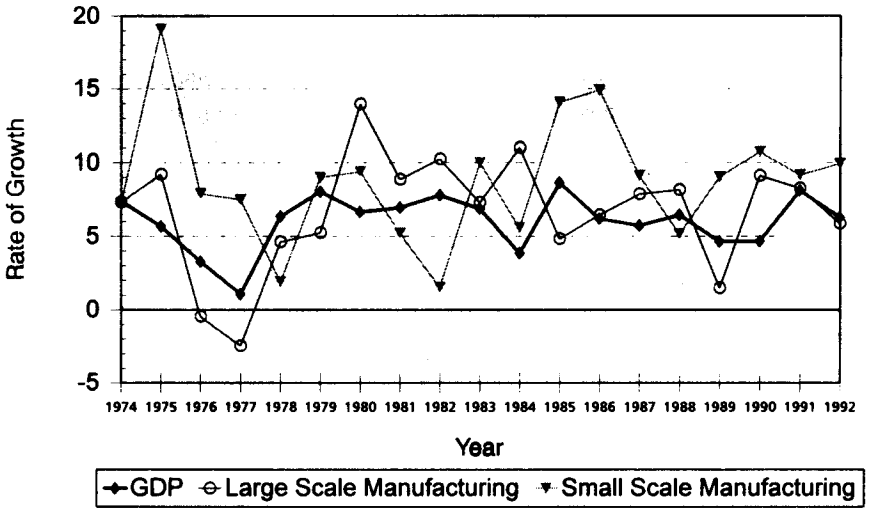
Results

The linkages between large-scale manufacturing and GDP have appeared to change over time (Figure 1), with changes in GDP providing a strong stimulus to manufacturing growth during the earlier (1974–88) period. The average impact was fairly rapid, with the optimal lag averaging two years. For the latter period (1978–92), however, large-scale manufacturing provided a very weak stimulus to GDP. The impact was also very rapid, averaging one year. These patterns merged into a feedback relationship for the period as a whole

4. For a discussion of the nature of, and the advantages in using, the Hsiao method, see Thornton and Batten (1985); Judge et al. (1982); Hsiao (1979). It should be noted that the series used in the causation analysis were stationary, cf. Hsiao (1981).

5. Because of the need to include as many observations as possible in each causality test, three regression tests were made for each sector: (1) for the entire period (1974–92), (2) the pre-reform years 1974–88, and (3) the inclusion of the pre-reform years (1978–92). We concluded that the reforms had an impact on the relationship between sector output and overall economic activity if the results in (3) were significantly different from those reported for the years covered in (2).

Figure 1
Pakistan: patterns of growth, GDP and manufacturing



Source: Data from World Bank.

(1974–92). Again over this interval, the impact of GDP on large-scale manufacturing was quite strong, but that of manufacturing on GDP was very weak. There were no statistically significant patterns between small-scale manufacturing and GDP.

Several interesting patterns (Table 2) occur between the individual sectors and manufacturing:

(i) As might have been expected, the links between small- and large-scale manufacturing and other sectors of the economy differ considerably. This pattern holds across nearly all the main sectors of the economy.

(ii) As regards agriculture, causation appears to flow largely from agriculture to large-scale manufacturing. This pattern is consistent with the notion that expanded production in agriculture tends to lower raw material costs and thus raise profitability in manufacturing. It is also consistent with several of the linkage mechanisms developed in the context of the Green Revolution (see, for example, Child and Kaneda, 1975; Kaneda, 1971).

Table 2
Pakistan: manufacturing/sectoral causality patterns

Sector	*Direction of causation*	*Optimal lag (years)*	*Impact strength*	*Relative*
Large-scale manufacturing/agriculture				
1974–92	Feedback	3,4	+,–	s,w
1974–88	Agriculture→manufacturing	2	+	s
1978–92	Feedback	3,4	+,–	s,m
Small-scale manufacturing/agriculture				
1974–92	Manufacturing→agriculture	3	(–)	m
1974–88	Manufacturing→agriculture	3	(–)	m
1978–92	Manufacturing→agriculture	3	(–)	m
Large-scale manufacturing/mining				
1974–92	No relationship	–	–	–
1974–88	No relationship	–	–	–
1978–92	No relationship	–	–	–
Small-scale manufacturing/mining				
1974–92	Manufacturing→mining	1	+	w
1974–88	Manufacturing→mining	1	+	w
1978–92	Manufacturing→mining	1	+	w
Large-scale manufacturing/construction				
1974–92	No relationship	–	–	–
1974–88	Construction→manufacturing	4	+	m
1978–92	No relationship	–	–	–
Small-scale manufacturing/construction				
1974–92	Construction→manufacturing	2	(–)	m
1974–88	Construction→manufacturing	2	(–)	m
1978–92	Manufacturing→construction	2	+	w
Large-scale manufacturing/transportation				
1974–92	Feedback	2,2	+,–	w,w
1974–88	Feedback	4,2	+,–	w,w
1978–92	No relationship	–	–	–
Small-scale manufacturing/transportation				
1974–92	No relationship	–	–	–
1974–88	Manufacturing→transport	1	(–)	w
1978–92	No relationship	–	–	–

Table 2 continued

Sector	*Direction of causation*	*Optimal lag (years)*	*Impact*	*Relative strength*
Large-scale manufacturing/commerce				
1974–92	Feedback	4,1	–,+	m,m
1974–88	Feedback	2,1	+,+	m,m
1978–92	Feedback	1,1	–,+	w,w
Small-scale manufacturing/commerce				
1974–92	Feedback	1,2	+,+	w,w
1974–88	Feedback	1,2	+,+	w,m
1978–92	Manufacturing→commerce	4	+	w
Large-scale manfacturing/ownership of dwellings				
1974–92	OD→manufacturing	2	+	w
1974–88	No relationship	–	–	–
1978–92	OD→manufacturing	3	+	w
Small-scale manufacturing/ownership of dwellings				
1974–92	Manufacturing→OD	1	(–)	w
1974–88	Feedback	2,1	+,–	w,w
1978–92	Manufacturing→OD	3	(–)	w
Large-scale manfacturing/finance				
1974–92	No relationship	–	–	–
1974–88	Manufacturing→finance	2	+	m
1978–92	No relationship	–	–	–
Small-scale manufacturing/finance				
1974–92	No relationship	–	–	–
1974–88	Finance→manufacturing	4	+	m
1978–92	No relationship	3,2	–,+	w,m
Large-scale manufacturing/public admin./defence				
1974–92	Manufacturing→public admin.	3	+	m
1974–88	Manufacturing→public admin.	3	+	s
1978–92	Feedback	2,3	–,+	m,m
Small-scale manufacturing/public admin./defence				
1974–92	Public admin.→manufacturing	3	+	m
1974–88	Public admin.→manufacturing	3	+	m
1978–92	Public admin.→manufacturing	4	+	m

Table 2 continued

Sector	*Direction of causation*	*Optimal lag (years)*	*Impact strength*	*Relative*
Large-scale manufacturing/other services				
1974–92	Feedback	2,1	+,+	s,m
1974–88	Feedback	2,4	+,+	s,w
1978–92	Feedback	2,2	+,+	w,m
Small-scale manufacturing/other services				
1974–92	No relationship	–	–	–
1974–88	No relationship	–	–	–
1978–92	No relationship	–	–	–

Note: See text for a description of the computational method. In the case of feedback, the first term refers to the impact from sector→manufacturing. The second term depicts the relationship from manufacturing→sector. All variables are defined in terms of their year-to-year rate of growth. Strength assessment is based on the size of the regression coefficient(s) and the improvement in r^2.

(iii) Surprisingly, expansion in small-scale manufacturing has a consistently (and moderately strong) negative impact on agriculture. One possible explanation for this pattern is the occurrence of labour shortages in agriculture as small rural-based industries deplete the local labour pool. The increasing labour costs to farmers reduce profitability and hence future output levels.

(iv) Expanded large-scale manufacturing provides no real stimulus to the mining sector. However, increased small-scale manufacturing does create a short-run (albeit weak) increase in the demand for mining output. No doubt this effect is felt most in the metal-working areas of manufacturing.

(v) There are few positive links from manufacturing to construction. Here, the only significant links involve an often negative one from construction to manufacturing. Again, this negative relationship may originate in construction-related shortages in local labour markets.

(vi) One interesting feature in recent years is the development of a positive linkage between small-scale manufacturing and the construction sector. It should be noted, however, that this link is still quite weak. Also of importance is the fact that the long-run trend in construction growth is declining, while that of

manufacturing is increasing. Clearly the negative links between construction and (particularly large-scale) manufacturing are generally not significant impediments to increased industrial activity.

(vii) Increases in transport and communications appear to produce a weak stimulus to large-scale manufacturing (while manufacturing in turn impacts negatively on transportation). Again, there is little evidence here that manufacturing is assuming the role of a leading sector.

(viii) Manufacturing does have a generally positive impact on commerce, which exhibits an increasing growth trend pattern. This impact is generally fairly weak, however.

(ix) The financial sector has responded positively to increased output in large-scale manufacturing. However, this pattern seems to have broken down in the last four or five years.

(x) In terms of both strength and consistency, the major linkages between manufacturing and the economy appear to be in the areas of public administration/defence and other government services. In all cases, manufacturing impacted with moderate to strong force. In other words, increased manufacturing activity appears to place pressure on, or provide the means for, the government to expand services.

(xi) It should be noted, however, that the longer-run trend in public administration and defence and in other public services is downward. In other words, the average growth rate of each is experiencing a secular deceleration. Clearly the potential of manufacturing to lead a service-led expansion in growth has been limited.

Conclusion

Earlier we speculated that the economic reforms introduced in the 1980s might have enabled manufacturing to play a more critical role by stimulating growth in other sectors. Drawing on Currie's (1974) conceptual framework, we tentatively defined a leading sector as one whose growth is largely exogenous and, in turn, initiates an expansion in output in other major areas of the economy. The shift in the large-scale manufacturing/GDP pattern of causal growth from one of GDP stimulating large-scale manufacturing to the more recent one of manufacturing stimulating GDP suggests that the reforms may be creating an environment where manufacturing is able to play a greater role in initiating economic growth.

On the other hand, the absence of any major links (or evidence of movement in that direction) between large-scale manufacturing and other sectors of the economy, suggests that this conclusion is premature. It is apparent from the above analysis that the positive linkages from manufacturing to the overall economy stem largely from the relationship between manufacturing and public services. In the Pakistani context, expanded manufacturing appears to elicit more of a response from the government (in terms of providing more services/bureaucracy, etc.) than in creating real demand for other commodities. Given the budgetary policies facing the government and the fact that the long-run trend in services is downward, it would appear that the approach to growth developed over the last twenty or so years will not be sustainable.

Noman has best articulated the inability of large-scale manufacturing to develop links with other sectors (Noman, 1991: 854):

> In the 1980s private manufacturing has continued the shift towards more sophisticated intermediate and capital goods. Nonetheless, industrial diversification has been stunted. Industry has been found wanting in developing forward and backward linkages.

Like many observers, Noman attributes the poor performance of large-scale manufacturing to inappropriate government policies — overvalued exchange rate, excessive protection, and low taxes — factors that tend to increase or maintain high rates of profit, while providing no incentives for efficiency or links with other sectors.

One bright spot is the performance in small-scale manufacturing. While it is well known that the sector is extremely labour-intensive and its growth has aided in expanding the non-agricultural labour force, a number of other attributes have made this sector a powerful force for growth. As documented by Hamid, small-scale industry is an efficient user of capital and investment in that it adds more value than does large-scale industry. Also, small-scale industry uses domestically produced machinery and therefore, on the one hand, its growth generates feedback effects and further strengthens the country's capital goods manufacturing capability and, on the other hand, requires little foreign exchange and thus relaxes an important constraint on the economy's growth (Hamid, 1983: 67).

The above analysis suggests another role played by small-scale industry — that of forging a number of positive (although weak) linkages with construction, finance, and commerce. Traditionally, small-scale firms have not had access to foreign exchange nor have they had the finance (or incentive) to import foreign equipment. Perhaps the recent trade reforms will divert a larger proportion of large-scale manufacturing inputs to the domestic market. This would clearly be a favourable development and would redirect growth in that sector to a broader-based pattern of sectoral expansion.

Admittedly, by themselves, the causation results presented above do not identify the underlying reasons for the differential performance of large- and small-scale firms. However, the differential performance of small-scale manufacturing is consistent with several (albeit overlapping) mechanisms: (i) these firms face different factor price incentives and therefore utilise resources differently from their larger counterparts, or (ii) their size enables them to be more flexible and adaptable to changing conditions.

Concerning the first, further research should examine the extent to which large- and small-scale manufacturing firms face different government-created incentives, and the extent to which these incentives direct demand towards or away from other domestic producers. Regarding the second interpretation, a productive area to explore would be that of flexible specialisation. Briefly stated, flexible specialisation at the macro level 'encapsulates the move from a dominant mass production system, where stable markets, factor-cost reductions, and economies of scale were key variables to more diversified and ever-changing markets, products and production processes, where flexibility and innovation occupy center stage' (Rasmussen et al., 1992: 2). Nabi (1988) found several case studies where flexible specialisation was an important factor distinguishing large from small firms in Pakistan. To what extent has the flexibility of smaller Pakistani firms contributed to their superiority in generating links with other productive sectors? And is this above that induced by the government's more favourable policies for larger-scale firms?

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